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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,922	07/24/2003	Hyun-Ju Lee	0001371/3062USU	9485

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EXAMINER

HOPKINS, ROBERT A

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/625,922

Applicant(s)

LEE ET AL.

Examiner

Robert A. Hopkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 June 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 9 and 15 is/are rejected.
- 7) ☒ Claim(s) 6-8 and 10-14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3-3-05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3,9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ohno et al(3621640).

Ohno et al teaches a dust collecting container(6) for a vacuum cleaner , removably mounted in a suction chamber of a vacuum cleaner body to filter a dust from a dust laden air being drawn into the suction chamber through an air suction hole(44) that is connected with the outside, the dust collecting container comprising a dust collecting casing comprising a connecting hole(3) connected with the air suction hole and a discharge portion for discharging the drawn air and a filter assembly(5) comprising at least three filters(16,13a,13b) and removably mounted at the discharge portion(see figures 3 and 4) and wherein the filter assembly comprises a first, a second, and a third filter which are porous in nature and provided in consecutive order, the pores of the second filter(napped cloth 13b) being smaller than the first filter(prefilter 16), the pores of the third filter(elastic sheet) being smaller than the second filter(column 4 lines 17-22), and the dust laden air drawn in through the connecting hole passes through the first, second, and third filters in turn. Ohno et al further teaches wherein the first filter is a net member(column 3 line 30). Ohno et al further teaches the dust collecting casing is

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provided with an extended portion formed on the connecting hole, the extended portion being provided with a sealing means(check valve 45) for sealing in between the air suction hole and the connecting hole.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,3-5,15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Fawcett(2004/0205926).

Fawcett teaches a dust collecting container(30) for a vacuum cleaner , removably mounted in a suction chamber of a vacuum cleaner body to filter a dust from a dust laden air being drawn into the suction chamber through an air suction hole(22) that is connected with the outside, the dust collecting container comprising a dust collecting casing comprising a connecting hole(56) connected with the air suction hole and a discharge portion for discharging the drawn air and a filter assembly(68) comprising at least three filters(76,68; paragraph 0036) and removably mounted at the discharge portion(see figures 3 and 4) and wherein the filter assembly comprises a first, a second, and a third filter which are porous in nature and provided in consecutive order, the pores of the second filter(spun bound polyester) being smaller than the first filter(screen prefilter 76), the pores of the third filter(melt blown polypropylene) being smaller than the second filter, and the dust laden air drawn in through the connecting hole passes through the first, second, and third filters in turn. Fawcett further teaches wherein the first filter is a net member(screen element; paragraph 0039). Fawcett further teaches

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wherein the second filter is a sponge(paragraph 0036, noting that the filter can be formed of any number of materials). Fawcett further teaches wherein the third filter is a non-woven fabric(melt-blown polyester). Fawcett further teaches wherein the dust collecting container is made of a transparent material.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

***Allowable Subject Matter***

Claims 6-8,10-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 6 recites "wherein the third filter comprises: an outer frame disposed in close contact with a boundary of a discharge portion of the dust collecting casing; and a non-woven fabric provided at the outer frame, defining a fluid passage through which the air is discharged from inside of the dust collecting casing to the outside and at the same time filtering minute particles from the air passed through the second filter". Both Ohno et al and Fawcett teach a third filter, however the third filter is not a separate filter which includes an outer frame, but is a filter having a different mesh size than a second filter, the second and third filters placed together to form a single filter. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a third filter which comprises an outer frame disposed in close contact with a boundary of a discharge portion of the dust collecting casing; and a non-woven fabric

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provided at the outer frame, defining a fluid passage through which the air is discharged from inside of the dust collecting casing to the outside and at the same time filtering minute particles from the air passed through the second filter because neither Ohno et al nor Fawcett teach such a modification. Claims 7,8, and 13 depend on claim 6 and hence would also be allowable upon incorporation of claims 6 and 2 into claim 1.

Claim 10 recites "wherein the sealing means comprises: a first sealing member, extended at one end toward the outer side of the extended portion to a close contact with a boundary of the air suction hole; and a pressing means for selectively pressing the first sealing member towards the air suction hole". Ohno et al teaches a check valve seal, but fails to teach a first sealing member, extended at one end toward the outer side of the extended portion to a close contact with a boundary of the air suction hole; and a pressing means for selectively pressing the first sealing member towards the air suction hole. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a first sealing member, extended at one end toward the outer side of the extended portion to a close contact with a boundary of the air suction hole; and a pressing means for selectively pressing the first sealing member towards the air suction hole because Ohno et al does not suggest such a modification. Claims 11 and 12 depend on claim 10 and hence would also be allowable upon incorporation of claims 10 and 9 into claim 1.

Claim 14 recites "wherein the dust collecting casing is provided with a fixing rail at an outer portion thereof in correspondence with a fixing rib provided to a suction chamber of the cleaner body, and the dust collecting casing is mounted in the suction

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chamber as the fixing rib is inserted in the fixing rail". Both Ohno et al and Fawcett teach dust collecting casings having an end portion which presses into the air suction hole and places the casing within the suction chamber. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a dust collecting casing which is provided with a fixing rail at an outer portion thereof in correspondence with a fixing rib provided to a suction chamber of the cleaner body, and the dust collecting casing is mounted in the suction chamber as the fixing rib is inserted in the fixing rail because neither Ohno et al nor Fawcett teach such a modification.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Magdelain(4689059) discloses a prior art vacuum cleaner having first(49), second(51), and third(53) separate filter layers with pore sizes which are not consecutively smaller along the flow path.

Frey et al(5593479) discloses a vacuum cleaner having first(30), second(80), and third(60) separate filter layers, however filter layer 80 has a 99.9% filtration efficiency, therefore the pores of the third filter are not smaller than those of the second filter.

### ***Response to Arguments***

Applicant's arguments filed 6-6-05 have been fully considered but they are not persuasive.

Applicant argues Ohno fails to disclose or suggest the features of claim 1 of first, second, and third filters that are porous in nature and provided in a consecutive order.

Examiner respectfully submits that although Ohno et al states that filter 13 is a "main filter", the filter is a combination of a layer 13a having fine meshes and a layer 13b having rough meshes, and since the layer 13a is 10 mesh and layer 13b is 20 mesh, examiner respectfully submits that the two layers can be considered as two separate filters. Therefore, combining filter layers 13a and 13b with prefilter 16 provides for the claimed first, second, and third layers that are porous in nature and provided in a consecutive order, wherein the pore size decreases along the flow path from filter to filter. Examiner also notes column 7 lines 37-57 which recites combining the layer 13a having a relatively lower flow resistance with layer 13b to compensate the dust collecting rate thereby to obtain a balanced flow resistance and dust collecting rate. Therefore, examiner respectfully submits that the layer 13a and layer 13b are clearly two distinct filters having distinct filtering functions, and not a single filter as argued by applicant.

Applicant argues Fawcett fails to disclose or suggest the features of claim 1 of first, second, and third filters that are porous in nature and provided in a consecutive order. Examiner respectfully submits that although Ohno et al states that filter 13 is a "filter element 68", the filter is a combination of a layer of melt blown polypropylene and a layer of spun bound polyester, and since the layers have different pore sizes, examiner respectfully submits that the two layers can be considered as two separate filters. Therefore, combining filter layers of filter element 68 with prefilter 76 provides for the claimed first, second, and third layers that are porous in nature and provided in a



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consecutive order, wherein the pore size decreases along the flow path from filter to filter.

Examiner notes that the filter of figure 3 seem to be separate and distinct filters, as noted in the specification on page 10 which discusses removing the respective filters of the filter assembly. Therefore, including limitations in claim 1 reciting separate and adjacent filters would seem to overcome both Ohno et al and Fawcett, which recite a filter assembly comprising at least three filters and removably mounted at the discharge portion, but wherein two of the three filters are directly connected to each other.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

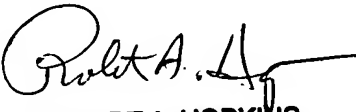
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ROBERT A. HOPKINS  
PRIMARY EXAMINER  
A.U. 1724

Rah  
July 21, 2005